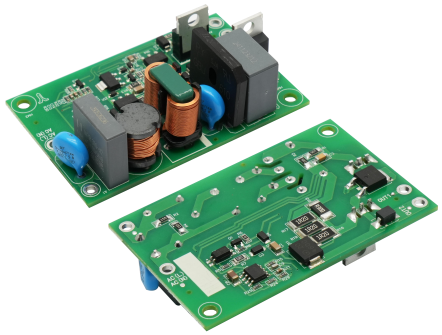
330/500/630A Magnetoelectric Controller



RoHS

FEATURE

- Wide voltage input range: 85- 275VAC/VDC
- Operating temperature range: -40℃ to +70℃
- Reduce coil temperature rise
- High reliability: 1200 times/h no-load switching frequency
- EMI performance meets CISPR32/EN55032 CLASS A
- Customization available

KMxxx-C220-SF series — is a controller specially designed for contactor. It only needs one coil and is compatible with many contactor models. It features low power consumption, small size, low cost, high reliability and strong anti-tripping capability. The product is safe and reliable, with stable pull-in, fast response, wide input voltage range, strong anti-grid power shaking capability, universal AC and DC, no need for short-circuit design. It is widely used in various types of contactor power-saving and a new generation of wide-voltage input contactors. Applicable to the upgrade and optimization needs of most 330/500/630A shells in the market.

Selection Guide

Part No.	Input Voltage	Contactor Rated Operational Current (A)	Control Voltage Range
KM330-C220-SF	230VAC	330	85-275VAC/VDC
KM500-C220-SF		500	
KM630-C220-SF		630	

Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC/DC input		85	230	275	VAC/VDC
AC Input Frequency	AC input		47	--	63	Hz
Input Holding Power	85-275VAC	KM330/500-C220-SF	--	10	--	VA
		KM630-C220-SF	--	15	--	

Operating Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Minimum Operating Voltage	After powering on with a relatively low input voltage, quickly rotate the adjustment to gradually increase the voltage for startup until the contacts close.	KM330/630-C220-SF	--	--	85	VAC/VDC
		KM500-C220-SF	--	80	85	VAC
			--	75	80	VDC
Release Voltage	During normal holding operation, gradually reduce the input voltage until the contacts open.	KM330-C220-SF	--	--	65	VAC/VDC
		KM500-C220-SF	--	55	60	
		KM630-C220-SF	--	--	60	
Operating Current	230VAC input	KM330-C220-SF	4.8	7	--	A
		KM500-C220-SF	7	8.9	15	
		KM630-C220-SF	7.7	9	15	
Hold-in Current	Full voltage range	KM330-C220-SF	0.16	0.4	--	
		KM500-C220-SF	0.33	0.42	1	
		KM630-C220-SF	0..27	0.65	--	
Start-up Delay Time	Full temperature range, 230VAC input	KM330-C220-SF	--	60	100	ms
		KM500-C220-SF	--	60	80	
		KM630-C220-SF	--	50	100	

Turn-off Delay Time		KM330-C220-SF	--	35	60	
		KM500-C220-SF	--	35	70	
		KM630-C220-SF	--	25	60	
No-load SwitchingFrequency	25℃, 100-250VAC		1200 times/h			
	70℃, 100-250VAC		600 times/h			
	-40℃,100-250VAC		1200 times/h			

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Operating Temperature		-40	--	+70	℃
Storage Temperature		-40	--	+85	
Storage Humidity	Non-condensing	--	--	95	%RH
MTBF	MIL-HDBK-217F@25℃	≥300,000 h			

Mechanical Specifications

Dimension	71.50 x 46.00 x 26.20mm	
Weight	KM330/630-C220-SF	46g (Typ.)
	KM500-C220-SF	45g (Typ.)
Cooling Method	Free air convection	

Electromagnetic Compatibility (EMC)

EMI	CE	CISPR32/EN55032	CLASS A	
	RE	CISPR32/EN55032	CLASS A	
EMS	ESD	IEC/EN61000-4-2	Contact ±4kV/ Air ±8kV	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2kV	perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to line ±2kV	perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s	perf. Criteria A
	Voltage dip*	IEC/EN61000-4-11	70% Un, 25/30 cycle (50/60Hz)	perf. Criteria A

Note: *Un denotes the maximum nominal input voltage.

Design Reference

1.Typical application

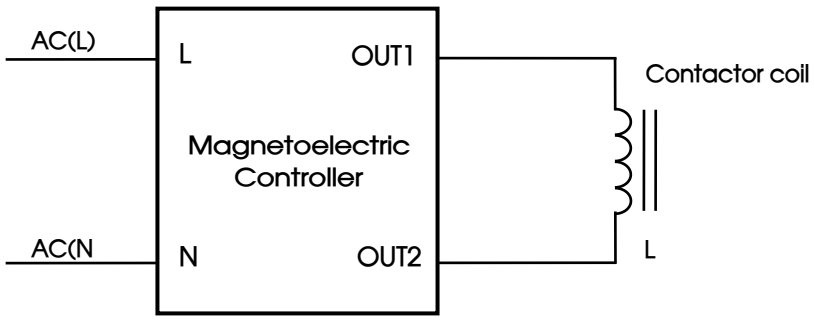


Fig. 1 Typical application

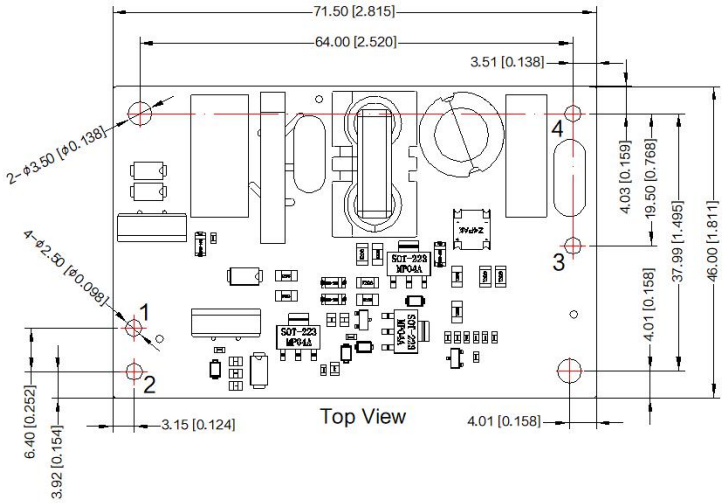
Recommended coil parameter table:

Part No.	Air-cored inductance (mH)	Release inductance (mH)	Operating inductance (mH)	Coil resistance (Ω)	Coil diameter (mm)	Coil turns (T)
KM330-C220-SF	21	85	560	7.7	0.6	400
KM500-C220-SF	50	105	620	5.9	0.8	753
KM630-C220-SF	33	80	400	5.6	0.95	700

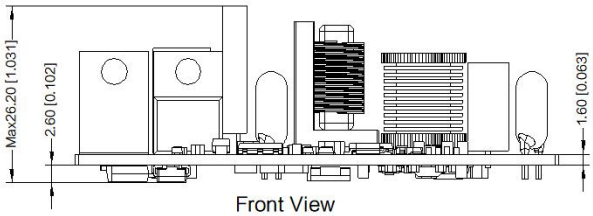
Note:
1. Hot plug is unavailable;
2. Air-cored inductance, release inductance and operating inductance are measured under the condition of 10kHz/0.1V, and the above data are measured at 25℃.

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Pin-Out	
Pin	Mark
1	OUT1
2	OUT2
3	N
4	L



Note:
Unit: mm[inch]
General tolerances: ± 0.50[± 0.02]
The layout of the device is for reference only, please refer to the actual product

Note:

1. For additional information on Product Packaging please refer to www.mornsun-power.com. Packaging bag number: 58220017;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage;
3. All index testing methods in this datasheet are based on company corporate standards;
4. We can provide product customization service, please contact our technicians directly for specific information;
5. Products are related to laws and regulations: see "Features" and "EMC";
6. The Magnetoelectric Controller should be considered as a part of the contactor, all EMC tests need to be confirmed with the contactor. For guidance on EMC test operation, please consult our FAE;
7. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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